Original Article

Depression Literacy Among Post-graduate Medical Residents of a Tertiary Care Hospital in Dhaka, Bangladesh

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Abstract

Background:
Depression is a common, chronic, recurrent, treatable disorder that significantly hampers quality of life and linked to medical morbidity and mortality. Early detection of depression leads to its earlier and better care. Increased depression literacy among the post-graduate residents might play a vital role in the early detection and treatment.

Objectives:
This study aimed to look the depression literacy status and linkage between depression literacy and socio-demographic variables among the post-graduate medical residents.

Methods:
This cross sectional study was conducted among post-graduate medical residents in different faculties of Bangabandhu Sheikh Mujib Medical University. A probability proportionate sampling technique was applied to choose the number residents from each departments demented by the registered book. Socio-demographic variables were collected in a structured questionnaire and depression literacy was assessed by self-reporting D-Lit Bangla questionnaire of depression. Collected data were analyzed to estimate the mean score of depression literacy and 95% confidence intervals of D-Lit Bangla scores.

Results:
The mean score of the participants was 13.25. A statistically significant result on depression literacy was found in regards of sexes, family types, number of family members, faculties, psychiatric training outside of BSMMU of the residents. A good level of knowledge on depression symptomatology was found above 60% of residents but poor knowledge in psychotic symptoms where mean ranging from 22.7% to 47.6%. Poor correct responses were also found in impact of depression such as role of clinical psychologist (22.2%), sedative and addictive propensity of antidepressants (36.4% and 35%) and other treatment option (16.4%).

Conclusion:
The study revealed average literacy status among the residents of various disciplines of a tertiary care hospital, Bangladesh.

Keywords: Depression literacy, Mental health literacy, Post-graduate medical residents, D-Lit Bangla self-assessment questionnaire.

Introduction:

Depression is a clinical condition presents with persistent and pervasive sad mood, lack of pleasure in daily activities, sleep disturbance, changes in appetite, decrease energy, impaired attention concentration and memory, changes in psychomotor activity, inappropriate guilt feeling, suicidal thoughts and impaired daily function.[1, 2] Globally, more than 264 million people of all ages suffer from depression. Depression is a leading

cause of disability worldwide and is a major contributor to the overall global burden of diseases. In 2004, depressive disorders ranked the third cause of global burden of disease and by 2020, it became the second most burdensome disease across the world and will move into the first place by 2030.[2-4] Close to 800000 people die by suicide every year. Depression is a major contributor of suicide and many studies suggest that depression accounts about 60% of global suicide as a risk factor. [2,5,6] Due to adverse social circumstances, the incidence of depression is more common in females and the point prevalence of major depression ranges from 2.6% to 5.5% among men & 6.0% to 11.8% among women.[7] Worldwide possibility of developing depression is 7-12 % for men and 20-25% for women. These rates are independent of race, education, earnings, or social status.[3] At least 16.8% of the adult population and 13.6% of the children in Bangladesh suffer from mental disorders and 6.7% of adult populations have depressive disorder, revealed in the National Mental Health Survey of Bangladesh in 2018-19. Bangladesh is a very densely populous developing country in South Asia with gradual improvement in health literacy (HL) but the actual condition is very poor.[8,9] The prevalence of depression is about 4.6% in Bangladesh and a good literacy in depression would be needed to combat the burden of the disorder.[2,10] Depression typically starts in the age of early mid-20s; it follows a relapsing recurrent course and causes substantial impairments in multiple domains of life. As an episodic recurrent illness, literacy regarding depression has an important role in treatment as well as improving the quality of life and low mental health literacy (MHL) is associated with depression in adolescent age.[2,11] Literacy is generally mean the ability to read and write, while a 'literate person' is someone 'who can with understanding both read and write a short simple statement on his everyday life'.[12] Health literacy (HL) was introduced first in 1974 and subsequently it has gained admiration in global research.[13,14] HL refer to individuals' ability to locate, understand and use information for health-related decisions and to make 'appropriate health decisions'.[15] HL has been considered as a fundamental element of patient-centered healthcare system and plays a important role in the identification of disorders, seeking help, initiatives to prevent, compliance of medication.[14,16] MHL is described as the possession of knowledge and beliefs which facilitate the recognition, management and prevention of mental disorders.[17] MHL is associated with help-seeking practices that highlight the need for examining and improving the depression literacy of medical post-graduates due to their high rates of depression and low rates of mental health related help-seeking behaviors. Enhanced understanding of MHL, development of appropriate interventions and self-evaluation measurement tools help to achieve improvements of mental health outcomes in the future.[18] MHL reduces stigma, increases help seeking behaviors and recognizing the symptoms among post graduate residents.[19] Depression literacy (D-Lit) is a disorder specific MHL, essential requirement to combat the disorder and can be defined as the ability to identify depressive symptoms and to make informed decisions regarding treatment during emergencies. Repeated evidences indicate that poor depression literacy among general population affects identification, need for treatment, help-seeking behavior, treatment, compliance to the antidepressants.[20,21] Unfortunately, a majority of MHL studies concerning depression literacy of post-graduates done in developed western countries, resulting in limited understanding of this area in developing and non-western countries. Between 76% and 85% of people in low and middle income countries receive no treatment for depression. Depression Literacy Program is effective in increasing depression comparative study reported that D-Lit was the highest among the medical graduates (D-Lit mean: 11.19), followed by chronically ill patients, university graduates and depressed patients in Bangladesh.[9,14] A study revealed poor literacy status in recognition psychotic symptoms of depression as well as the treatment aspects of depression in first year university students of Bangladesh where the mean D-Lit score was 6.55.[23] As far researcher knowledge there is no research conducted regarding D-Lit status among post-graduate medical students in Bangladesh. So this study aimed to assess the depression literacy among post graduate residents and recommend necessary steps to enhance literacy on depression.

Methods:

This was a cross-sectional descriptive study carried

out in Department of Psychiatry, BSMMU, Dhaka during the period from May 2019 to October 2019 among post-graduate residents under Medicine, Pediatrics, Surgery, Basic Science & Para Clinical Science faculties of BSMMU. Probability Proportionate sampling size technique was applied to determine the number of sample from each particular department documented in registrar book. Then purposive convenient sampling technique was applied to achieve the proportionate size of participants from each discipline considering the residents phases & gender. Calculated Sample size was 380, among them 225 residents who fulfilled the inclusion criteria was taken as sample. FCPS, M.Phil, Diploma doctors, Dentistry residents and foreign residents studying at BSMMU were excluded. Before commencement of this study, ethical approval was taken from ethical committee and informed written consent was taken from all participants. Ethical aspects were strictly maintained in all the procedures. Prior to the study pretesting was carried out among 10% of the total study population to test the applicability & feasibility of the research instruments. Necessary socio-demographic variables of responders were taken using a structured questionnaire and Depression literacy assessed by a self-reporting D-Lit Bangla structured questionnaire of depression. All collected data was repeatedly checked & rechecked for omission, inconsistencies & improbabilities. Data analysis was performed by using Statistical Package of Social Science version 22. Data were analyzed to estimate the mean score and 95% confidence intervals of D-Lit Bangla scores.

Results:

Among the 225 respondents, 58.2% were male and 41.8% were female. Most of respondents were within the age 30 to 35 years (53.3%), 87.1% were belonging to religion of Islam and 12.9% were Hindu. Most of them were married (82.7%) and unmarried were 17.3%, about 56% of participants lived in nuclear family and 44% in extended family. Monthly income ranged from 40000 to 50000 BDT for 37.3% and above 50000 BDT for 44% of residents and income source included 62.7% from government salary, 29.3% from residency allowance and 1.8% from private practice. About 45.3% of residents had family history of depression and 63.6% of residents suffered from depression during lifetime. (Table-I)

Table-I: Distribution of socio-demographic variables of the respondents (n= 225)

Variable	Sub-population	Frequency (Percentage)
Sex	Male	131(58.2)
	Female	94(41.8)
Age (Years)	<30	80(35.6)
	30 To 35	120(53.3)
	>35	25(11.1)
Religion	Islam	196(87.1)
	Hinduism	29(12.9)
Marital status	Married	186(82.7)
	Unmarried	39(17.3)
Family members	2 to 4	91(40.4)
	5 to 6	89(39.6)
	>6	45(20)
Family type	Nuclear	126(56)
	Extended	99(44)
Income source	Government Salary	141(62.7)
	Residency allowance	66(29.3)
	Private Practice or Others	4(1.8)
Monthly income (Taka)	<40000	42(18.7)
	40000-50000	86(37.3)
	>50000	99(44)
Family history of depression	Yes	102(45.3)
	No	123(54.7)
Self-depression history	Yes	143(63.6)
	No	82(36.4)

Mean literacy among male and female were 13.61 and 12.75 respectively. Depression literacy found statistically insignificant regarding sex (p= .24), age (p= .47), religion (p= .35), marital status (p= .28) and monthly income (p= .16). Mean depression literacy was 13.73 in nuclear family and 12.63 in extended family that was statistically significant (p= .04). Depression literacy also found statistically significant regarding number of family members (p= .01), where mean literacy 13.89 among residents having 2-4 family members, 13.10 among residents having 5-6 members and 12.26 among residents having more than 6 family members (Table-II).

Table-II: Association between socio-demographic and depression literacy of the respondents

Variable	Depression literacy status n (%)				p-value
	Very low score group (=<5)	Low score group (>5 to 10)	Moderate score group (>10 to 15)	High score group (>15)	
Age (Years)					
<30	0(0.0)	13(16.3)	51(63.8)	16(20.0)	
30-35	3(2.5)	16(13.3)	76(63.3)	25(20.8)	.47
>35	0(0.0)	5(20.0)	12(48.0)	8(32.0)	
Sex					
Male	1(.8)	16(12)	81(61.8)	33(25.2)	.24
Female	2(2.1)	18(19.1)	58(61.7)	16(17)	
Religion					
Muslim	3(1.5)	32(16.3)	121(61.7)	40(20.4)	.35
Hindu	0(.0)	2(6.9)	18(62.1)	9(31)	
Marital status					
Unmarried	0(.0)	3(7.7)	29(74.4)	7(17.9)	.28
Married	3(1.6)	31(16.7)	110(59.1)	42(22.6)	
Main income					
Govt. salary	0(.0)	22(15.6)	90(63.8)	29(20.6)	
Residency allowance	3(4.5)	9(13.6)	38(57.6)	16(24.2)	.42
Private practice or others	0(.0)	3(18.8)	11(55.5)	4(35.6)	
Family type					
Nuclear	0(.0)	14(11.1)	81(64.3)	31(24.6)	.04
Extended	3(3)	20(20.2)	58(58.3)	18(18.2)	
No. of Family member					
2-4	0(.0)	9(9.9)	59(64.8)	23(25.3)	
5-6	0(.0)	16(18)	54(60.7)	19(21.3)	.01
>6	3(6.7)	9(20)	26(57.8)	7(15.6)	
Monthly income (Taka)					
<40000	0(.0)	6(14.3)	26(61.9)	10(23.8)	
40000-50000	0(.0)	8(9.5)	54(64.3)	22(26.2)	.16
>50000	3(3)	20(20.2)	59(59.6)	17(17.2)	
Family history of depression					
Yes	2(2)	19(18.6)	62(60.8)	19(18.6)	.40
No	1(1.8)	15(12.2)	77(62.6)	30(24.4)	
Depression self					
Yes	1(1.7)	23(16.1)	92(62.4)	27(18.9)	.34
No	2(2.4)	11(13.4)	47(57.3)	22(26.8)	

Among the respondents 38.2% were from medicine, 37.3% from surgery, 10.7% from pediatrics and 13.8% from basic science & para-clinical faculties. Mean depression literacy in Medicine found higher than other faculties and was statistically significant (p= .028). Participants were 52% in phase A and 48% in phase B and mean literacy difference between two phase was statistically significant (p= .004). About 62.2% residents had psychiatric training outside BSMMU and 37.3% residents had no training outside BSMMU and the mean literacy difference between two groups was highly significant (p= <.001). Among respondents 83.65% had no BSMMU psychiatric placement and 16.4% had scheduled placement; mean score difference was highly significant of these groups (p= < .001)(Table-III).

Table-III: Relation between academic variables and depression literacy of respondents

Variable	Depression literacy status: n (%)				p-value
	Very low score group (=<5)	Low score group (>5 to 10)	Moderate score group (>10 to 15)	High score group (> 15)	
Faculty					
Medicine	2(2.3)	6(7)	51(59.3)	27(31.4)	.028
Surgery	1(1.2)	13(15.5)	55(65.5)	15(17.9)	
Pediatrics	0(.0)	5(20.8)	15(62.5)	4(16.7)	
Basic science & para clinical	0(0.0)	10(32.3)	18(58.1)	3(9.7)	
Phase					
Phase A	2(1.7)	13(11.1)	85(72.6)	17(14.5)	.004
Phase B	1(.9)	21(19.4)	54(50)	32(29.6)	
Psychiatry placement (BSMMU)					
Yes	1(2.7)	3(8.1)	16(43.2)	17(45.9)	<.001
No	2(1.1)	31(16.5)	123(65.4)	32(17)	
Psychiatry training outside					
Yes	2(2.4)	6(7.1)	43(51.2)	33(39.3)	<.001
No	1(.7)	28(19.9)	96(68.1)	16(11.3)	

Depression:
literacy in residents from psychiatry department and non-psychiatric residents placed in psychiatry department were 16.36 vs 13.65 showed significant difference (p= .032) (Table-IV).

Table-IV: Mean±SD distribution of depression literacy scores between Psychiatry and non-Psychiatry residents who completed psychiatry placement at BSSMU

Characteristics	N	Mean	T	P
Psychiatry residents	14	16.36±4.22	2.24	0.032
Non-psychiatry residents	23	13.65±3.11		

Total D-Lit score was calculated by summing the scores of 20 items where the score ranged from 0-20. The mean (±SD) D-Lit score was 13.25 (±3.11) and the mean score was slightly higher in males (13.61) than in females (12.75). The total correct response of most of the residents was in between 10-15 (Figure-1).

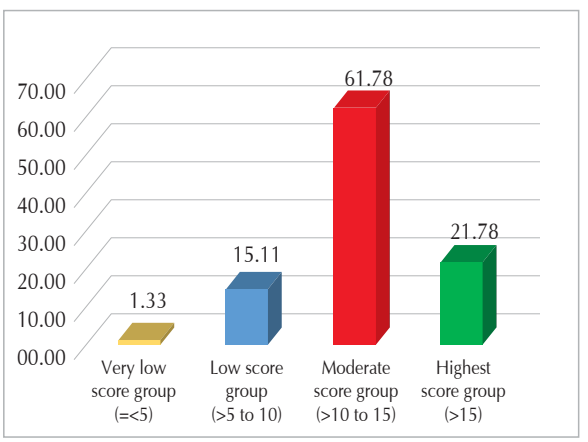


Figure-1: Depression literacy status of the respondents in percentage

The respondents had good knowledge on multiple domains of symptoms of depression except psychotic domain where they revealed poor literacy status i.e. reckless behavior (24.9%), irrelevant speech (22.7%), and auditory hallucination (47.6%). Literacy status on biological symptoms revealed correct responses ranging from 90.7% to 95.1%, cognitive symptoms from 80.9% to 96.9%

and impact of depression from 60.4% to 93.8%. Correct responses on management of depression revealed lower status such as role of psychologist in giving medication for depression by 22.2%, other treatment options better than antidepressants by 16.4%, sedative property of antidepressants by 36.4%, addictive propensity of antidepressants by 64.4%, role of vitamin in management of depression by 65.3%, onset of antidepressants action by 87.1%, stopping moment of antidepressants by 78.2%, role of counseling in mild to moderate depression by 81.3% of respondents (Table-V).

Table-V: Distribution of depression literacy parameters among respondents (n=225)

Parameters	Response		
	Correct n (%)	Incorrect n (%)	Don't Know n (%)
Cognitive symptoms			
Q.2 Guilt feelings	207(92)	8(3.6)	10(4.4)
Q.4 Low self esteem	218(96.9)	1(.4)	6(2.7)
Q.8Attention & Memory	182(80.9)	39(17.30	4(1.8)
Psychotic symptoms			
Q.5 Hallucination	107(47.6)	57(25.3)	61(27.1)
Q.1 Irrelevant Speech	51(22.7)	138(61.3)	36(16)
Q.3 Reckless behavior	56(24.9)	124(55.1)	45(20)
Biological symptoms			
Q.6 Hypersomnia or Insomnia	214(95.1)	4(1.8)	7(3.1)
Q.7Hyperphagia or Anorexia	204(90.7)	10(4.4)	11(4.90
Behavioral symptoms			
Q.9 Psychomotor retardation or agitation	193(85.8)	11(4.9)	21(9.3)
Impact of depression			
Q. 11 Moderate depression affects like asthma & deafness	136(60.4)	34(15.1)	55(24.4)
Q. 12 Often needs hospitalization	199(88.4)	8(3.6)	18(8)
Q.13 Famous people suffered depression	211(93.8)	14(6.2)	225(100)
Management			
Q.10 Clinical Psychologist medication	50(22.2)	161(71.6)	14(6.2)
Q.20 All ant-depressants are sedative	82(36.4)	110(48.9)	33(14.7)
Q.14 Other Rx better then drugs	37(16.4)	130(57.8)	58(25.8)
Q. 15 Mild to Moderate depression counselling	183(81.3)	14(6.2)	28(12.4)
Q.16 Vitamin supplement most effective	147(65.3)	16(7.1)	62(27.6)
Q. 17 Should stop drug immediately	176(78.2)	6(2.7)	43(19.1)
Q. 18 Anti-depressants are addictive	145(64.4)	40(17.8)	40(17.8)
Q. 19 Anti- depressants works immediately	196(87.1)	4(1.8)	25(11.1)

When socio-demographic and academic factors were tested against depression literacy scores of the respondents among variables, family history of depression, number of family members and psychiatry training status were observed to significantly predict the target variable ($p < 0.05$). According to regression analysis, family history of depression of the respondents had a negative influence on their literacy scores. When other variables were held constant, respondents had family history of depression obtained 0.747 unit less scores compared to those who had no family history depression ($p = .082$). Doctors who belonged to the placement at BSMMU showed 0.921 unit more literacy scores than those of who hadn't ($p=0.11$). Trained doctors achieved 1.68 unit scores higher than untrained counterparts, when other variables were assumed constant ($p<.001$) showed positive correlation. Doctors belonging to families comprising more than 6 individuals had 1.72 unit lesser depression related literacy than doctors with family members between 2 to 4 ($p = .039$) showed negative correlation (Table-VI).

Table-VI: Correlation of socio-demographic and related factors towards the depression literacy scores of respondents

Model	Unstandardized Coefficients		Standardized Coefficients	T	p-value
	Beta	Std.Error	Beta		
(Constant)	13.171	.878		15.008	.000
Age (Years)					
30 to 35 vs below 35	.275	.460	.044	.597	.551
Age above 35 vs below 35	1.012	.713	.102	1.420	.157
Sex					
Female vs male	-.390	.426	-.062	-.915	.361
Religion					
Hinduism vs Islam	.278	.603	.030	.461	.646
Phase					
Phase B vs Phase A	.359	.418	.058	.859	.391
Family type					
Extended Vs Nuclear	.099	.633	.016	.157	.875
Family history of depression					
Yes vs No	-.747	.428	-.120	-1.747	.082
Self-depression history					
Yes vs No	.021	.441	.003	.047	.963
Psychiatry placement (BSMMU)					
Yes vs No	.921	.587	.110	1.569	.118
Psychiatry training outside					
Yes vs No	1.676	.437	.261	3.835	.000
Marital status					
Married vs unmarried	.702	.562	.085	1.249	.213
Income source					
Residency allowance Vs govt. job	-.157	.456	-.023	-.344	.731
Private source of Income vs govt. job	.768	1.504	.033	.511	.610
Faculty					
Surgery vs medicine	-.284	.479	-.044	-.593	.554
Pediatrics vs medicine	-.672	.719	-.067	-.935	.351
Basic science vs medicine	-1.034	.664	-.115	-1.556	.121
No. of family member					
5 to 6 vs 2 to 4	-.832	.587	-.131	-1.418	.158
Above 6 vs 2 to 4	-1.716	.825	-.221	-2.079	.039
Monthly Income (BDT)					
Above 50000 BDT vs below 40000 BDT	.467	.440	.073	1.061	.290

Discussion:

Health literacy is thought to be a core element of patient-centered healthcare services system. Poor health literacy affects all aspect of health and it has important role in identification of disorders, seeking help for emergencies, formulating strategies to prevent, adherence to the medications and so forth. This study revealed good depression literacy status in recognition of symptoms of depression except the psychotic symptoms and management of depression. The mean D-Lit score was 13.25 with significant difference among residents who have placement in psychiatry department and who attend psychiatric training outside of BSMMU. Previous comparative observation revealed the depression literacy status among undergraduate medical graduates (D-Lit mean: 11.19). The mean score of those respondents measured by same instrument having same range of 0-20.[14] The current mean is higher than the mean of D-Lit from previous study in the same country. A study in India revealed the mean D-Lit score 13.21 (min = 6, max = 19), vis-a-vis the mean D-Lit score of the current study was 6.55 (min=0, max=12) which indicates the poorer D-Lit status among the current study respondents with higher depression literacy in females and it was positively associated with treatment compliance.[20] Current study revealed opposite pattern of D-Lit on the basis of gender. The mean D-Lit score of that study was 13.21 (min=6, max=19), those were little lower than the current study with opposite gender.Among the undergraduate students in Sri Lanka, the ability to recognize depression was found to be low.[17] In China, about 12% respondents were able to recognize depression.[4] among Iran medical students, 35.6% of students mentioned the correct answer in recognition of the disorder and 64.3% gave positive answer in help-seeking area. The majority of affected students sought for help from their friends and parents and stigma was the greatest barrier for seeking help.[24] These differences can be explained by the different set-up of study, different instruments, cultural construct and educational status of the respondents, educational system and the existing health promotional activities in the context.D-Lit status found better in Medicine faculty than other faculties and the mean difference was statistically significant (p= .028). This may be due to much importance given of psychiatry in Medicine faculty academic curriculum than other faculties. D-Lit of phase-B residents found better than phase-A revealed statistically significant difference (p= .004), probably due to rotation placement in psychiatry department of other departments often placed in their phase-B schedule. Residents of other departments had placed in psychiatry department showed statistically significant higher D-Lit than who never placed (p< .001). Residents previously attended psychiatric training outside BSMMU shown better literacy than whom never attended which also statistically very significant (p< .001).But the reason behind higher depression literacy found in residents of nuclear families and residents with less family members (2-4 member) is unclear; though both variables were found statistically significant (p= .04 & p=.01). Over 90% residents responded correctly with biological symptoms; over 85% with behavioral symptoms and over 80% with cognitive symptoms of depression. Correct response ranges only 22-47% regarding psychotic symptoms of depression, and 16.4-87.1% regarding management of depression and side effects of anti-depressants. This indicated huge knowledge gap of residents in these parameters.

Conclusion:

The study revealed average literacy status (mean literacy 13.25). Depression literacy is a vital part to treat depression appropriately. This study exposed the status of depression literacy in multi-disciplinary groups of post-graduate medical residents of a highest tertiary care hospital in Bangladesh. A good proportion of residents (19.2 %) refused to take part in the study. Getting target amount of phase A and phase B residents at a time of a discipline and time matching between researcher and respondents was difficult. Responding to translated Bengali medical jargons questionnaire for Bengali speaking residents were uneasy and difficult to understand. However, adequate strategies should be focused to improve the depression literacy both in undergraduate and post-graduation curriculum to reduce the burden of depression. Further, large scale, multi-centered and interventional studies are necessary to find out the cause-effect relationship.

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